

AMENDMENTS TO THE CLAIMS

Please amend claims 1 and 7, such that the status of the claims is as follows:

1. (Currently amended) An improved actuation system for positioning a slider carrying a transducing head, the actuation system of the type having a movable actuator arm, a head suspension, a microactuator, a flexure, a slider and a transducing head carried by the slider, the improvement comprising:

an encapsulant comprised of a self assembled monolayer with a self limiting thickness of one layer of a molecule covers a surface of a component selected from the group consisting of the microactuator, the slider, a disc spacer, surface mount components on a printed circuit card assembly, and ceramic components of the actuation system.

2. (Original) The improvement of claim 1 wherein the self assembled monolayer is composed of an organosilane.

3. (Original) The improvement of claim 2 wherein the organosilane is selected from the group consisting of octadecyltrichlorosilane (OTS), octadecyldimethylchlorosilane, butyltrichlorosilane, perfluorodecyltrichlorosilane, alkylsiloxane, alkyl and perfluoroalkyl-trichlorosilane, dichlorosilane, alkene and alkyl ethoxy silanes, octadecyltrietoxysilane, alkylaminosilanes, and alkanethiols.

4. (Original) The improvement of claim 1 wherein the self assembled monolayer is composed of N-octadecene.

5. (Original) The improvement of claim 1 wherein the encapsulant has a thickness in the range of about 10 angstroms to about 40 angstroms.

6. (Original) The improvement of claim 1 wherein the encapsulant selectively adheres to exposed ceramic surfaces of the component.

7. (Currently amended) A slider comprising:

a slider body having a leading edge and a trailing edge;  
a transducing head positioned proximate the trailing edge of the slider body; and  
an encapsulant comprised of a self assembled monolayer with a self limiting thickness of one layer of a molecule covering a surface of the slider body.

8. (Original) The slider of claim 7 wherein the self assembled monolayer is composed of an organosilane.

9. (Original) The slider of claim 8 wherein the organosilane is selected from the group consisting of octadecyltrichlorosilane (OTS), octadecyldimethylchlorosilane, butyltrichlorosilane, perfluorodecyltrichlorosilane, alkylsiloxane, alkyl and perfluoroalkyl-trichlorosilane, dichlorosilane, alkene and alkyl ethoxy silanes, octadecyltrithoxysilane, alkylaminosilanes, and alkanethiols.

10. (Original) The slider of claim 7 wherein the self assembled monolayer is composed of N-octadecene.

11. (Original) The slider of claim 7 wherein the encapsulant has a thickness in the range of about 10 angstroms to about 40 angstroms.

12. (Original) The slider of claim 7 wherein the encapsulant is substantially uniform.

13. (Original) The slider of claim 7 wherein the encapsulant selectively adheres to ceramic surfaces of the slider body.

14. (Original) The slider of claim 7 wherein the thin organic film is applied to the slider by dip coating, gravity coating, spray coating, screen coating, roll coating or vapor phase deposition.

15. (Previously presented) The improvement of claim 1, wherein the microactuator comprises:

a first piezoelectric element attached between a mounting block and the head suspension, the first piezoelectric element being deformable in response to a voltage applied thereto;

a compliant joint between the mounting block and the suspension, the compliant joint being flexible to permit movement of the suspension with respect to the mounting block; and

wherein the encapsulant comprises a self assembled monolayer covering a surface of the first piezoelectric element.

16. (Previously presented) The improvement of claim 15 wherein the self assembled monolayer is composed of an organosilane.

17. (Previously presented) The improvement of claim 16 wherein the organosilane is selected from the group consisting of octadecyltrichlorosilane (OTS), octadecyldimethylchlorosilane, butyltrichlorosilane, perfluorodecyltrichlorosilane, alkylsiloxane, alkyl and perfluoroalkyltrichlorosilane, dichlorosilane, alkene and alkyl ethoxy silanes, octadecyltriethoxysilane, alkylaminosilanes, and alkanethiols.

18. (Previously presented) The improvement of claim 15 wherein the self assembled monolayer is composed of N-octadecene.

19. (Previously presented) The improvement of claim 15 wherein the encapsulant has a thickness between about 10 angstroms and about 40 angstroms.

20. (Previously presented) The improvement of claim 15 wherein the encapsulant selectively adheres to exposed ceramic materials of the first piezoelectric element.

21. (Previously presented) The improvement of claim 15, and further comprising a second piezoelectric element attached between the mounting block and the suspension, the second piezoelectric element being covered by an encapsulant comprised of a self assembled monolayer and deformable in a direction complementary to deformation of the first piezoelectric element in response to a voltage applied thereto.